

CLAIMS

1. A composition for inhibiting the growth of microorganisms on non-cellulosic fibres having a moisture regain of $\leq 5\%$, comprising;

5 i) 1 to 50 wt% of at least a self-crosslinkable resin;
ii) 0.25 to 20 wt% of at least a catalyst;
iii) 0.1 to 4 wt% of at least an antimicrobial active agent, reactive with the resin;
iv) 98.65 to 26 wt% of water;

10 wherein i) + ii) + iii) + iv) = 100%.

2. A composition according to claim 1 where the non-cellulosic fibres have an acid value $\leq 5 \text{ mmol/kg}$.

15 3. A composition for inhibiting the growth of microorganisms on non-cellulosic fibres having an acid value of $\leq 5 \text{ mmol/kg}$, comprising;

i) 1 to 50 wt% of at least a self-crosslinkable resin;
ii) 0.25 to 20 wt% of at least a catalyst;
iii) 0.1 to 4 wt% of at least an antimicrobial active agent, reactive with the resin;
iv) 98.65 to 26 wt% of water;

20 wherein i) + ii) + iii) + iv) = 100%.

25 4. A composition according to claim 3 where the non-cellulosic fibres have a moisture regain of $\leq 5\%$.

30 5. A composition according to any one of the preceding claims where the non-cellulosic fibres are selected from the group consisting of polyester, polyamide, polypropylene, polyurethane and cellulose acetate.

35 6. A composition according to any one of the preceding claims where the self-crosslinkable resin is an amino resin.

7. A composition according to claim 6 where the self-crosslinkable resin is a formaldehyde condensate with urea or melamine.

8. A composition according to claim 7 where the self-crosslinkable resin is selected from dimethyloldihydroxyethylene urea and dihydroxydimethylene urea.

9. A composition according to any one of the preceding claims where the catalyst is selected from the group consisting of MgCl₂; ammonium chloride; ammonium sulphate; ammonium salts of formic acid, boric acid, phosphoric acid, oxalic acid; poly(hexamethylene biguanide) hydrochloride and or mixtures thereof.

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10. A composition according to any one of claims 1 to 8 where the catalyst is selected from the group consisting of MgCl₂; ammonium chloride; ammonium sulphate; ammonium salts of formic acid, boric acid, phosphoric acid, oxalic acid; and or mixtures thereof.

10 11. A composition according to any one of claims 1 to 9 where the catalyst is poly(hexamethylene biguanide) hydrochloride.

15 12. A composition according to any one of the preceding claims where the antimicrobial active agent is selected from the group consisting of quaternary ammonium salts, biguanides, monoguanides, and or mixtures thereof.

13. A method for inhibiting the growth of microorganisms on non-cellulosic fibres having a moisture regain of $\leq 5\%$, comprising stages:

20 A) contacting the fibres with a composition according to any one of the preceding claims;
B) optionally drying the fibres contacted with the composition; and
C) curing the fibres contacted with the composition to effect crosslinking of the resin.

25 14. A method according to claim 13 where the non-cellulosic fibres have an acid value of ≤ 5 mmol/kg.

15. A method for inhibiting the growth of microorganisms on non-cellulosic fibres having an acid value of ≤ 5 mmol/kg, comprising stages:
A) contacting the fibres with a composition according to any one of the preceding claims;
B) optionally drying the fibres contacted with the composition; and
30 C) curing the fibres contacted with the composition to effect crosslinking of the resin.

16. A method according to claim 15 where the non-cellulosic fibres have a moisture regain of $\leq 5\%$.

35 17. A method according to any one of claims 13 to 16 where stage C) is carried out at temperatures in the range of from 100 to 180°C.

18. A method according to any one of claims 13 to 17 where stage C) is carried out for a time in the range of from 30 seconds to 5 minutes.

19. Non-cellulosic fibres having a moisture regain of \leq 5% carrying a composition comprising:

- (a) 1 to 10 wt% by weight of the non-cellulosic fibres of at least a self-crosslinkable resin; and
- 5 (b) 0.1 to 1 wt% by weight of the non-cellulosic fibres of at least an antimicrobial active agent, reacted with the resin.

20. Non-cellulosic fibres according to claim 19 having an acid value of \leq 5 mmol/kg.

10 21. Non-cellulosic fibres having an acid value of \leq 5 mmol/kg carrying a composition comprising:

- (a) 1 to 10 wt% by weight of the non-cellulosic fibres of at least a self-crosslinkable resin; and
- 15 (b) 0.1 to 1 wt% by weight of the non-cellulosic fibres of at least an antimicrobial active agent, reacted with the resin.

22. Non-cellulosic fibres according to claim 21 having a moisture regain of \leq 5%.

20 23. Non-cellulosic fibres having a moisture regain of \leq 5% treated with a composition according to any one of claims 1 to 11.

24. Non-cellulosic fibres having an acid value of \leq 5% mmol/kg treated with a composition according to any one of claims 1 to 11.

25 25. Use of a composition according to any one of claims 1 to 11 in the treatment of non-cellulosic fibres having a moisture regain of \leq 5%.

26. Use of a composition according to any one of claims 1 to 11 in the treatment of non-cellulosic fibres having an acid value of \leq 5 mmol/kg.